

What to Study

Cells Unit

Be able to understand and explain the following:

- Cellular organization
 - Organelle
 - Cell
 - Tissue
 - Organ
 - Organ system
- Functions of the cell
- Cell membrane and its functions
- Fluid mosaic model
- Types of movement across cell membrane including
 - Diffusion
 - Equilibrium
 - Concentration gradient
 - Osmosis
 - Osmotic pressure
 - Hypotonic solution
 - Lysis
 - Isotonic solution
 - Hypertonic solution
 - Crenation
 - Filtration
 - Carrier-mediated transport mechanisms
 - Facilitated diffusion
 - Active transport
 - Secondary active transport
 - Cotransport
 - Countertransport
 - Endocytosis
 - Phagocytosis
 - Pinocytosis
 - Exocytosis

Be able to identify and explain the functions of the following organelles/structures and their components:

- Nucleus
 - Nuclear envelope
 - Nuclear pores
 - Chromatin
 - Chromosomes
 - Nucleoli
- Ribosomes
- Rough er
- Smooth er
- Golgi Apparatus
- Secretory Vesicles
- Lysosomes
- Peroxisomes
- Mitochondria
 - Cristae
- Centrioles
- Cytoskeleton
 - Microtubules
 - Microfilaments
 - Intermediate filaments
- Cilia
- Flagellum
- Microvilli

Note: You will also need to be able to label organelles in a diagram of the cell. In addition, you need to be able to label cell environments as hyper, hypo, or isotonic and show movement of water into/out of the cell.